A comparison of spatial and temporal variability of living benthic foraminiferal faunas at 550m depth in the Bay of Biscay

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Résumé en anglais	We studied living (Rose Bengal stained) benthic foraminiferal faunas of four replicate cores sampled at a 550m deep station in the Bay of Biscay in May 2004. After combining our new data with those collected by Fontanier et al. (2003) at the same station between October 1997 and April 2000, we performed statistical analyses (Detrended Correspondence Analysis) to assess the extent of spatial variability in comparison to temporal variability in our dataset. Replicate cores taken from a single multi-corer deployment and from two deployments were compared so that we could gain insight into spatial variability both at a micro-(less than lm apart) and meso-scale (around 100m apart). The statistical analyses suggest that the scale of spatial variability is similar to that of temporal variability. Only the most prominent features of temporal variability (i.e. responses to major bloom events) can be recognised. Especially the species Uvigerina peregrina, and to a smaller extent Cibicidoides pachydermus and Siphogenerina columellaris, appear to respond to bulk phytodetritus deposits following surface water primary production maxima. Uvigerina peregrina showed only elevated densities in autumn 1997 and spring 2004, but not in the samples from spring 1999 and 2000. We suggest that these differences could be explained by a difference in the composition of the phytoplankton exported to the seafloor.
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